(19) World Intellectual Property Organization

International Bureau





(43) International Publication Date 7 April 2005 (07.04.2005)

PCT

(10) International Publication Number WO 2005/032138 A1

(51) International Patent Classification7: H04N 7/24, 7/26

(21) International Application Number:

PCT/IB2004/051885

(22) International Filing Date:

27 September 2004 (27.09.2004)

(25) Filing Language:

English

(26) Publication Language:

English

(30) Priority Data:

60/506,885

29 September 2003 (29.09.2003) US

- (71) Applicant (for all designated States except US): KONIN-KLIJKE PHILIPS ELECTRONICS, N.V. [NL/NL]; Groenewoudseweg 1, NL-5621 BA Eindhoven (NL).
- (72) Inventors; and
- (75) Inventors/Applicants (for US only): VAN DER SCHAAR, Mihaela [NL/US]; P.O. Box 3001, Briarcliff Manor, NY 10510-8001 (US). CHEN, Yingwei [CN/US]; P.O. Box 3001, Briarcliff Manor, NY 10510-8001 (US).
- (74) Common Representative: KONINKLIJKE PHILIPS ELECTRONICS, N.V.; c/o Waxler, Aaron P.O. Box 3001, Briarcliff Manor, NY 10510-8001 (US).

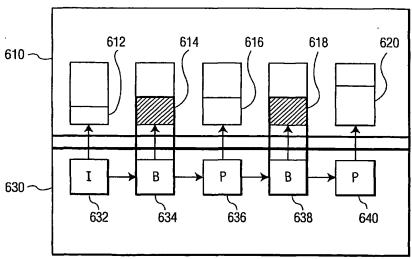
- (81) Designated States (unless otherwise indicated, for every kind of national protection available): AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW.
- (84) Designated States (unless otherwise indicated, for every kind of regional protection available): ARIPO (BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

Declarations under Rule 4.17:

as to applicant's entitlement to apply for and be granted a patent (Rule 4.17(ii)) for the following designations AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE,

[Continued on next page]

(54) Title: SYSTEM AND METHOD FOR COMBINING ADVANCED DATA PARTITIONING AND FINE GRANULARITY SCALABILITY FOR EFFICIENT SPATIO-TEMPORAL-SNR SCALABILITY VIDEO CODING AND STREAMING



(57) Abstract: A system and method is provided for combining advanced data partitioning and fine granularity scalability in the transmission of digital video signals. A partition unit 440 located in a base layer encoding unit 410 of a video encoder 400 partitions a base layer bit stream 310, 320 into a base layer first partition bit stream 310 and a base layer second partition bit stream 320. Each of the two base layer bit streams 310,320 may be output directly or may be encoded before output. The two base layer bit streams 310, 320 may be encoded with a scalable encoder unit 442or with a non-scalable encoder unit 444. Fine granularity scalability is improved by providing an extended base layer bit rate. The bit rate range for advanced data partitioning is also extended. The invention provides improved video coding efficiency, complexity scalability, and spatial scalability.

WO 2005/032138 A1



EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, UZ, VC, VN, YU, ZA, ZM, ZW, ARIPO patent (BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European patent (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG)

 as to the applicant's entitlement to claim the priority of the earlier application (Rule 4.17(iii)) for all designations

Published:

- with international search report
- before the expiration of the time limit for amending the claims and to be republished in the event of receipt of amendments

For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.